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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/050,764	01/18/2002	Thomas J. Walls	CIG-109	7742
28970	7590	10/17/2006	EXAMINER	
PILLSBURY WINTHROP SHAW PITTMAN LLP			CERVETTI, DAVID GARCIA	
P.O. BOX 10500			ART UNIT	PAPER NUMBER
MCLEAN, VA 22102			2136	

DATE MAILED: 10/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/050,764

Applicant(s)

WALLS ET AL.

Examiner

David G. Cervetti

Art Unit

2136

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Applicant's arguments filed August 3, 2006, have been fully considered.
2. Claims 1-11 are pending and have been examined. Claims 12-19 have been cancelled.

Response to Amendment

3. Applicant's arguments with respect to the prior art have been considered but are moot in view of the new ground(s) of rejection.

Continued Examination Under 37 CFR 1.114

4. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114.

Claim Rejections - 35 USC § 102

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
6. **Claims 1-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Ghosh et al. (NPL "An automated approach for identifying potential vulnerabilities in software", hereinafter Ghosh).**

Regarding claims 1 and 6, Ghosh teaches a method for certifying software applications (abstract), said method comprising:

- (a) creating a vulnerability knowledge database comprising one or more classes of known software vulnerabilities (**section 2.3.1**);
- (b) applying a code parser to the software application to create an abstract syntax tree (**section 4**);
- (c) comparing the abstract syntax tree and the classes of known software vulnerabilities to identify a set of potential exploitable software vulnerabilities (**section 4**);
- (d) performing a static analysis of the source code, wherein the static analysis is flow sensitive analysis of a list of constraints, and wherein the results of the static analysis comprise a set of exploitable software vulnerabilities (**section 4**);
- (e) performing a first dynamic analysis of the software, wherein the first dynamic analysis comprises a set of tests to achieve code coverage (**section 2.2**);
- (f) performing a second dynamic analysis of the software, wherein the second dynamic analysis comprises injecting faults into the software while being executed (**section 2.3**); and
- (g) performing any two of said analysis steps in a pipelined manner (**section 2.3**).

Regarding claims 2 and 7, Ghosh teaches performing a dynamic analysis of the set of exploitable software vulnerabilities to identify one or more false positives in the

set of exploitable software vulnerabilities; and discarding the one or more false positives from the set of exploitable software vulnerabilities (**section 2.3.1**).

Regarding claims 3 and 8, Ghosh teaches wherein performing the dynamic analysis comprises executing the set of potential exploitable software vulnerabilities with a maximal number of testing configurations (**section 2.3.1**).

Regarding claims 4 and 9, Ghosh teaches wherein the vulnerability knowledge database is expandable (**figure 1**).

Regarding claims 5 and 11, Ghosh teaches wherein the set of exploitable software vulnerabilities comprises one or more of a security vulnerability, a safety vulnerability, or a reliability vulnerability (**sections 2.2-2.3**).

Regarding claim 10, Ghosh teaches a user interface that enables a user to enter an additional known software vulnerability to the vulnerability knowledge database (**section 4**).

Conclusion

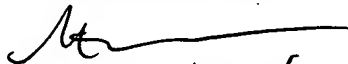
7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David G. Cervetti whose telephone number is (571) 272-5861. The examiner can normally be reached on Monday-Friday 7:00 am - 5:00 pm, off on Wednesday.

8. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nasser G. Moazzami can be reached on (571) 272-4195. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

9. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DGC

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SUPERVISORY PATENT EXAMINER
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10/13/06